

5. Все высадки на Луну американцы сняли в одном и том же павильоне.

12-15 minutes

Believe it or not, the shots for completely different US lunar expeditions were filmed in the same pavilion. The expeditions themselves changed: after "Apollo 15" followed "Apollo 16", then "Apollo 17", the names of the astronauts changed, the scene of action changed, but the "visiting cards" - the astronaut against the background of the lunar module and the lunar landscape (lunar mountain) - were taken like a passport photo in an atelier - in the same pavilion and from the same distance.

I wanted to tell about this after my article "[NASA propagandists versus lunar scam researchers](#)" followed a response from a NASA defender. And not even just an answer ... After three of my articles published on Zen, the "Lunar Program" channel was hastily created with the sole purpose of "exposing Konovalov's version of filming the Apollo mission in the studio." The fact is that in my article I said that the famous photo frame from the Apollo 15 mission was shot in the pavilion using the front projection method, and not at all on the Moon.



Photo frame from the Apollo 15 mission

This is a combined frame, consisting of two parts: a vertical screen is hanging in the background, onto which a picture of a mountain is projected, and sand is poured in front of the screen in the horizontal plane in the pavilion. An astronaut is standing near the model of the lunar module, and behind his back (just below the belt) the border separating the horizontal plane from the vertical is clearly visible.

Of course, trolls and "sofa" experts immediately came running, who began to assert (sometimes foaming at the mouth) that we have a real Moon in front of us, etc. The author of the channel [The Lunar Program](#) even brought in 4 consecutive images from the Apollo 15 mission to prove its case.

На беду кинооператора фотограф сделал не один, а четыре снимка. Один за другим. Причем он менял расстояние до объекта съемки:



Из четырех кадров Коновалов использовал правый - AS15-88-11866

Как мы можем видеть даже на маленьких "контрольках", на кадре, который был использован Коноваловым (правый), астронавт меньше по размеру, чем на левом. Следовательно, фотограф снимал с разного расстояния.

And since the pictures were taken not from one point, but slightly differ from each other, the author made a hasty conclusion that all this was filmed on the real moon.

This hasty conclusion reminded me of the parable of how an elephant was brought to the blind sages. Remember this story?

The first blind sage found his ear, which was slowly moving back and forth, and said that the "elephant" is a large fan. Another blind sage touched his leg and came to the conclusion that the "elephant" is a tree. The third sage, touching his tail, decided that there was a rope in front of him, the fourth took the elephant's trunk for a snake, the fifth touched the tip of the tusk and expressed confidence that the "elephant" is a spear. The sixth compared the elephant to a large, rough wall. The sages argued to the point of hoarseness and each tried to prove his own version.

So, the author of the "Lunar Program" reminded me of such a blind sage who touched the ear of an elephant and immediately shouted that there was a large fan in front of him. And that only he is right, and the rest are not.

What is the difference between the cameraman Konovalov from the "blind sage", the propagandist of NASA? Konovalov, before calling the elephant "elephant", touched the ears, tail, trunk, legs, tusks, and only after that he concluded that the frame from the Apollo 15 mission was filmed in the pavilion. The "blind sage" (defender of swindlers) took only 1 fact: that in this mission there is not one photo frame, but 4, which slightly differ from each other in size, and it seemed to him that this was enough to draw a conclusion - before us the real moon.

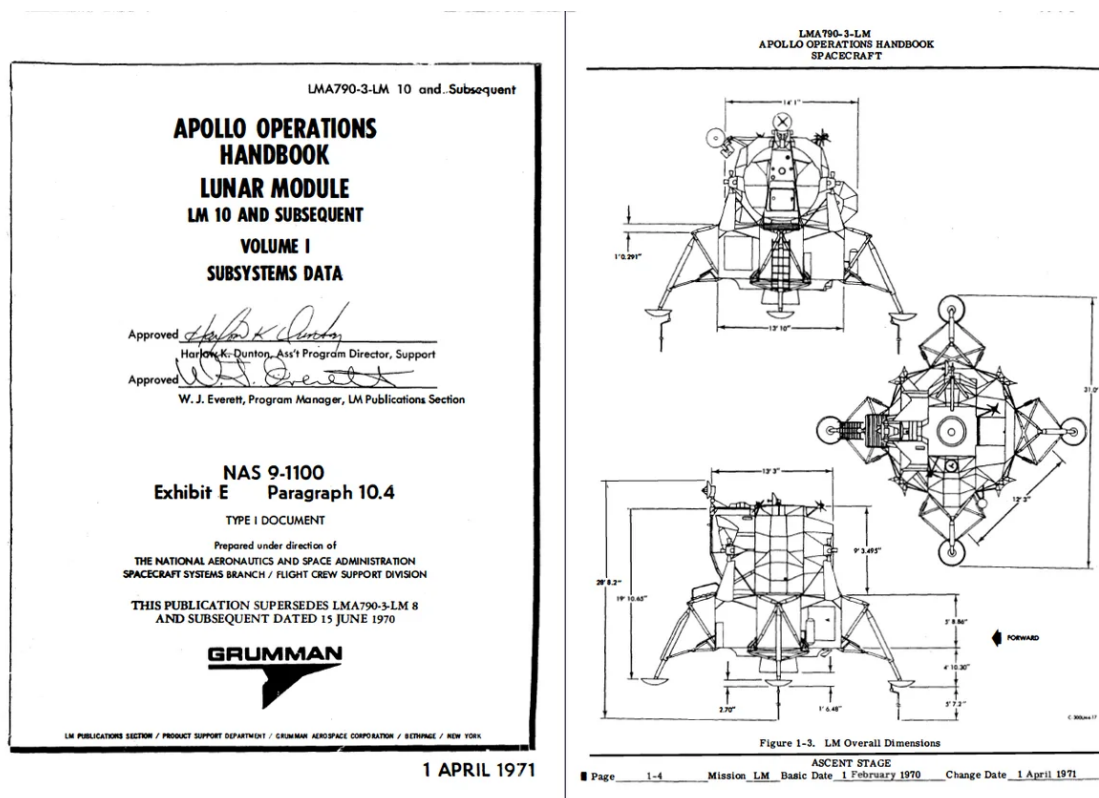
But Konovalov, before drawing his conclusion, analyzed not 1 or 4 consecutive photographs, but many times more. And I also compared these frames ("business cards") with similar frames from other missions. In addition, I drew attention to the direction of the light, to the color of the lunar soil, to the angle of rotation of the camera, to the scale of the lunar module, to the difference in textures before and after the horizontal dividing line, and only after that made my conclusion. This is a pavilion.

What the author of the "Lunar Program" wrote in defense of the lunar scam is so naive that it does not deserve an answer. Therefore, this article is not dedicated to him, but to you, an inquisitive reader who wants to understand how these pictures were taken.

After you read the article, you (like me at one time) will notice such a feature of these photographs - the maximum distance that an astronaut with a camera leaves to take a picture of a module that has landed never exceeds 19 meters. As if there is a border beyond which he is not allowed to retreat. However, I would not be surprised if at first such a statement seems incredible to you.

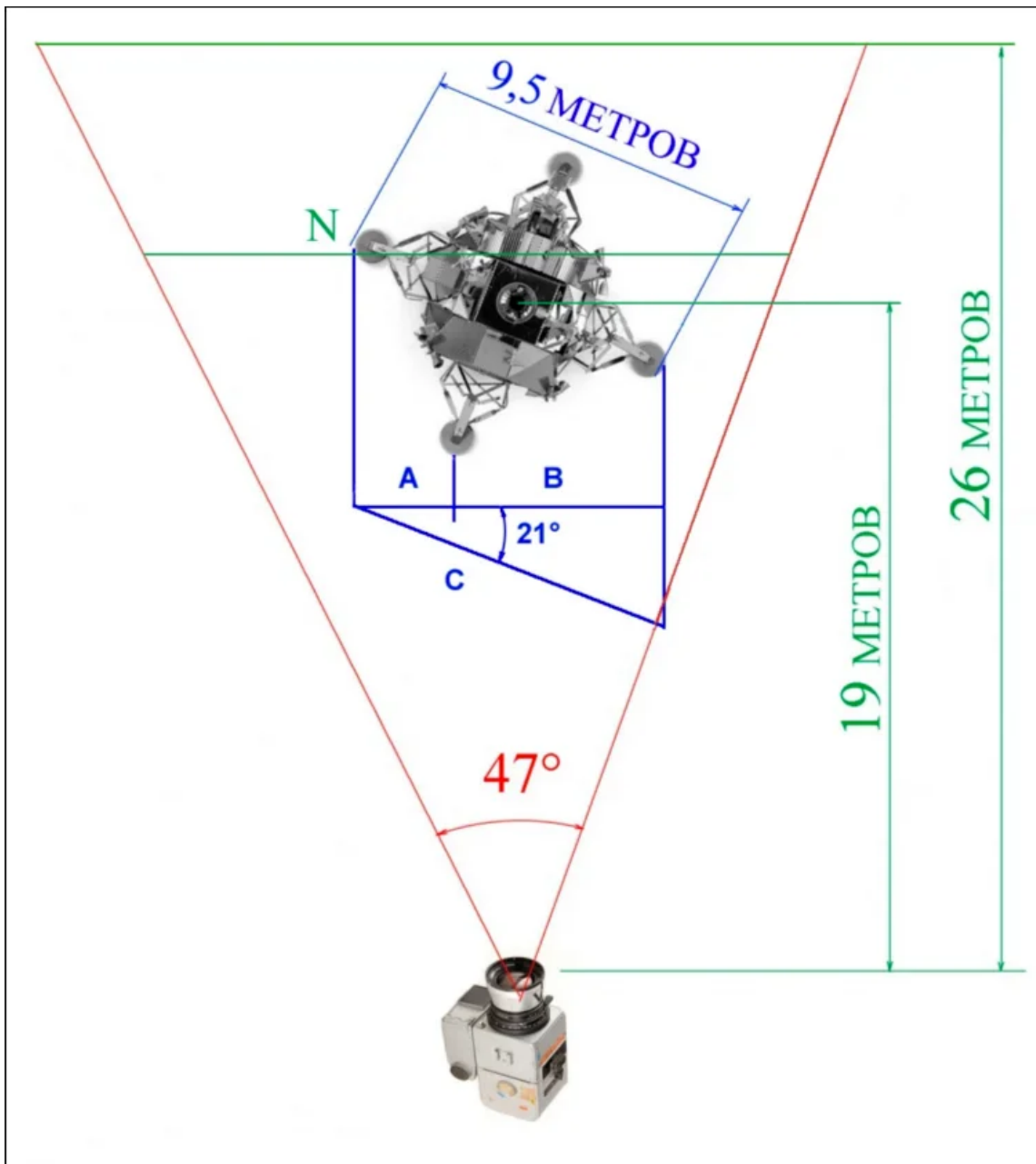
Let's try to determine from what distance this image from the Apollo 15 mission was taken, at what distance from the lunar module was the photographer?

Determining the distance is not difficult. First, from the manufacturer's manual (and this is Grumman Corporation) it is known that the distance between the extreme bowls of the lunar module supports is 9.5 meters (31 feet).



Dimensions of the lunar module of the Apollo mission, according to Grumman's 1971 handbook.

Secondly, we know that the picture was taken on 70mm film with a Hasselblad 500 medium format camera with a Zeiss Biogon 5.6 / 60 lens. The focal length of the lens is 60 mm, the horizontal angle of coverage is 47 °. In the above (first) photo, you can see that the extreme supports occupy exactly half the frame width.

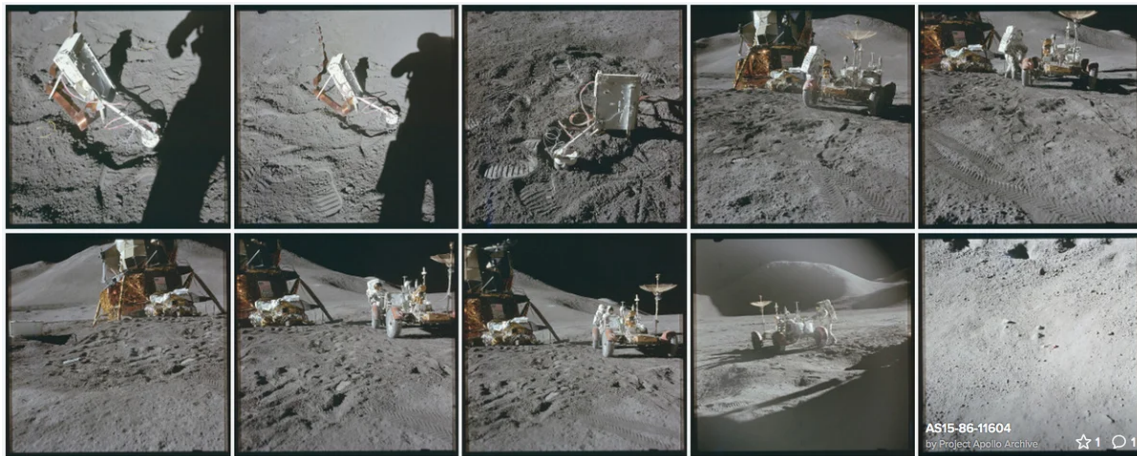


General plan survey (top view).

The lunar module is rotated by the diagonal connecting the distant supports approximately 21 degrees clockwise. Since the diagonal connecting the extreme points of the supports is 9.5 meters (line C in the diagram), the projection of this diagonal (distance A + B) is about 8.87 m. And since this distance (A + B) is about half width of the frame, then the total width of the frame along the line passing through the support N (green horizontal line) will be 17.7 m. Knowing the angle of coverage of the lens horizontally, 47° , we get the distance from the camera to the support line N - this is 20.4 m. And if we consider the distance not from the support, but from the center of the lunar module, then the distance to the camera will be 19 meters. The photographer, filming the lunar module, was at a distance of about 19 meters from it.

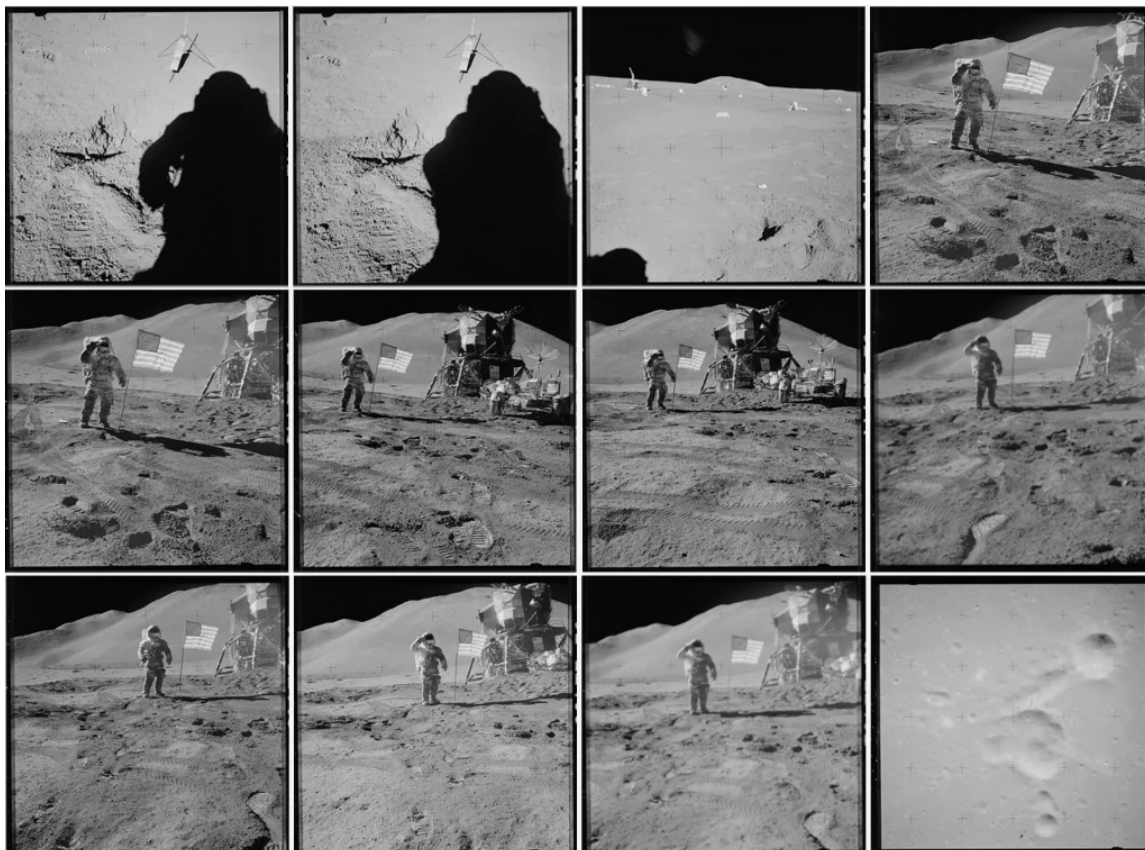
And here's what's strange: after looking at a lot of sequential frames from different cassettes, we noticed that the lunar module is always shot from this distance. The maximum distance does not exceed 19 meters.

For example, here is a cassette with color film, designated Magazine 86 / NN, from the Apollo 15 mission. All five frames, where the lunar module appears, were taken from approximately the same distance, about 19 meters. The supports of the lunar module occupy about half of the frame in width.



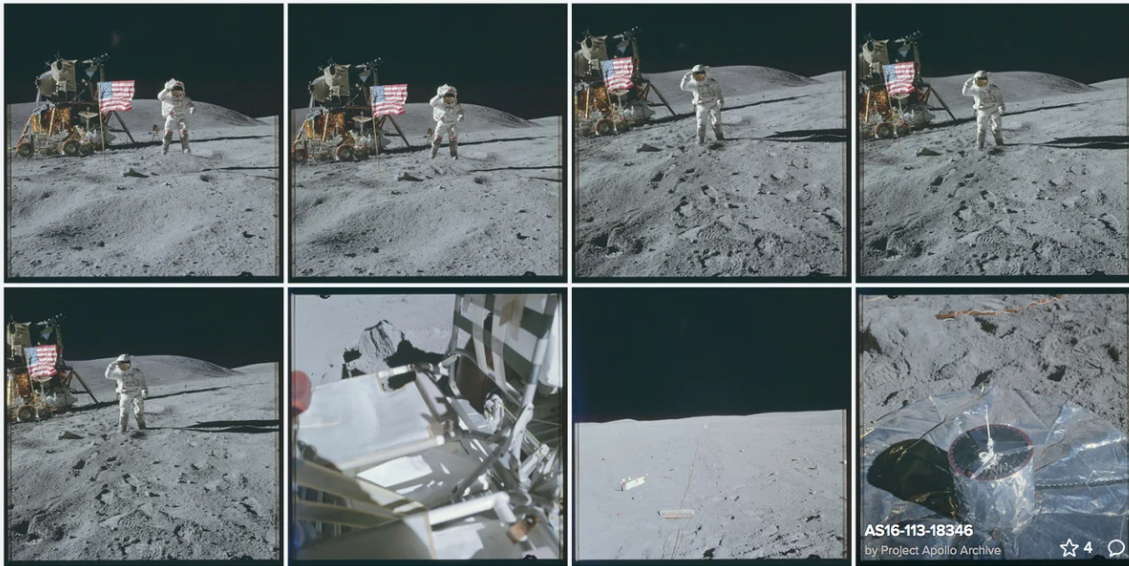
Apollo 15. Cassette with color film, 1971

And here is another cassette, Magazine 92 / OO, (this is black and white photographic film). There are eight consecutive frames with the lunar module, and all frames were again taken from a distance of 16 to 19 meters. Let's also pay attention to the fact that the sun shines from the side, the shadow falls from left to right.



Apollo 15. A cassette with black and white photographic film from the Apollo 15 mission.

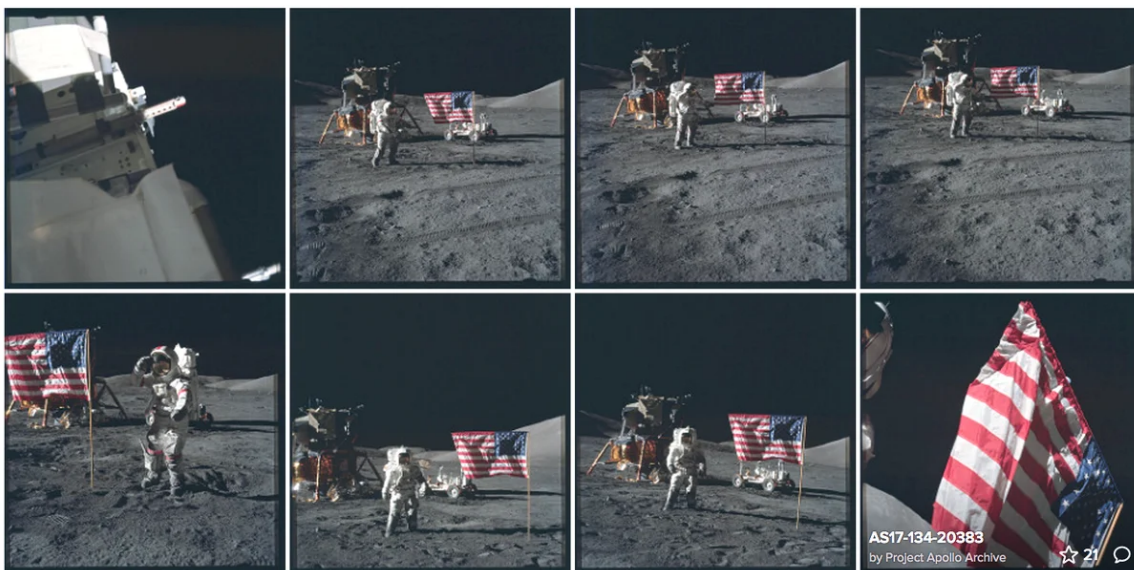
And what is surprising is that 9 months pass after the Apollo 15 expedition, and the footage of the lunar module of the next mission, Apollo 16, is filmed in exactly the same way: again the sun shines from the side, from left to right, and again the photographer has moved away to a distance of about 18-19 meters.



Five consecutive frames with the lunar module, the Apollo 16 mission.

You ask - in other missions as well? There were six of them - missions with landing on the moon.

Yes, exactly the same. All shots with lunar modules are made with a carbon copy, according to the same scheme, as if the shooting was done in the same place. Here is a look at the footage taken 8 months after Apollo 16, on the Apollo 17 mission: in all six frames, the sun shines again from the side, from left to right, and again the photograph is taken from a distance of about 19 meters.



Stills from the Apollo 17 mission, 1972

Why does the photographer never move further from the lunar module? And he simply cannot move further - there, after 19 meters, the lunar surface ends! And in the background a movie screen hangs in the background. You can even easily determine the distance to it. The lunar surface ends literally behind the far support of the lunar module. Sometimes behind the "pepelatsem" is still visible a small strip of bulk soil, but this is no more than 3-4 meters in depth. In total, it turns out that the distance to the cinema screen is about 26 meters.

In order not to light up the image on the movie screen, none of the spotlights that illuminate the actor-astronaut should be directed towards the screen. In other words, a spotlight that mimics the light of the sun should only illuminate the actor from behind. And since there is a movie screen directly behind the actor, the sun spotlight is placed on the side of the screen. This is where the back-side light comes from. The photographs of the different Apollo missions use the same back-side light all the time.

We showed 24 different images of the astronaut appearing in front of the lunar module, taken on three

different missions. But all the frames, like twin brothers, are similar to each other: they are shot from the same distance, with the same direction of light, everywhere the "screen-ground" interface is visible. In other words, all these shots were made using the same technology and, apparently, in the same pavilion.

Looking at these photographs, you probably paid attention to one more sign, which (as we will see later), will once again emphasize that we are dealing with combined shots: we do not see intermediate shots taken from different distances. After all, according to the logic of things, if the astronaut actually ended up on the moon, then, moving away from the rocket, he would take several pictures in succession: for example, first there would be a picture near the lunar module, then, after going a few steps, a series of pictures would appear with the astronaut in the foreground and the lunar module behind him, then, having retired a few more steps, the photographer would make a couple of general plans "for all mankind" with a small astronaut figure, a lunar module and an electric car in the distance. But we do not see such a sequence of shots, instead, all frames during several expeditions are shot in the same manner from the same distance, in the same angle, and then, in the same specified frame boundaries, the necessary "elements" are inscribed (put into the frame): a mountain in the background, lunar module, astronaut and electric vehicle (rover).

Look at those photographs that precede the photo session of 5-6 shots from 19 meters - these are frames taken in a different place and at a different time: either this is some kind of seat from the rover, or the corner of some module, or a large part flag, sometimes - just a frame with the shadow of an astronaut, or even in general - a frame from orbit. The shots with the lunar module against the background of the lunar mountain stand in isolation from all the material - these are combined shots using front projection.

Let's reveal another very important "secret": the shooting of photographs was carried out not with a light maneuverable camera, but with a huge fixed installation weighing more than a ton. And this set was rigidly "tied" to the screen, ie. was all the time at the same distance from the cinema screen, onto which the slide from the projector was projected. She, this installation, could not move around the pavilion, as a photographer would walk with a camera, it was rigidly fixed. And in order to get at least some variety of frames from the same shooting point, it was not necessary to move the camera, it remained stationary, but to move the platform with the ground in the space between the camera and the movie screen.

But we will talk about this (as well as about other parts of the "elephant") in another article. In this article, we described how 24 frames were taken from the three missions "Apollo 15, -16, -17". We will give examples where hundreds of more frames were taken using a similar technique (front projection). But this does not mean that 5 thousand other "lunar" frames were taken in exactly the same way. As in any filmmaking, Apolloniada was shot using different filming methods, so there will be a story about the use of mock-ups, dolls and mannequins.

*

Cameraman L. Konovalov was with you.



Leonid Konovalov (right) on a camera crane together with director of photography Oleg Martynov, the city of Arkhangelsk. The film "There lived a brave captain", "Mosfilm", 1984

Until next time!